

plains of northern New Mexico. (See Ann. Rept. Chief Eng. U. S. Geol. Surv. W. 100th Merid., 1876, Append. J. J., pp. 511-513.) One of these, *coronata*, he cited as the type of the genus. Since *coronata* is now considered to be congeneric with the *Oedipoda plattei* Thomas, we should use *Trachyrhachis* in place of *Mestobrygma* and take for the type of the genus *coronata* Scudd. instead of *plattei* Thom.

Professor Jerome McNeill has suggested the generic name *Metator* for Saussure's *pardalina*. (See Proc. U. S. Nat. Mus. XXIII, p. 394, Pl. XXI, fig. 3, 1901.)

Five New Species of *Micronecta* Kirkaldy (Aquatic Hemiptera).

BY G. W. KIRKALDY.

Until 1897 these tiny waterbugs (belonging to the family Corixidae and characterized by the conspicuous scutellum, by the head being similar in both sexes, strigil present in the males, length never more than $4\frac{1}{2}$ mm., etc.) were invariably termed *Sigara* Fabricius, 1775, but in that year (Entomologist XXX, p. 260) I pointed out that *Sigara* was strictly equivalent to *Corixa* Geoffroy, 1762 (incorrectly written *Corisa* by many authors), and therefore proposed the name of *Micronecta* ("tiny swimmer"). Two years later, Bergroth (Ent. Monthly Mag. XXXV, p. 282) erected a new genus, *Tenagobia*, for the then known American forms, separating these on account of the structure of the pronotum, the posterior margin of which is emarginate in *Tenagobia*, more or less rounded convexly in *Micronecta*. Early in the next year* (Revue d'Entom. France, XVIII, pp. 101-4) Horvath revised the palæarctic species, raising the total from eight to twenty-three, and one has since been added. The learned Hungarian doctor's characters are based upon the subcostal furrow, the comparative length of the pronotum, etc., but I think the form of the mesoxyphus and antennæ should not be neglected. I have not attempted, as yet, the examination of the strigil,

* Dated Dec., 1899, but this journal is notoriously antedated.

genitalia, etc., which will undoubtedly furnish good characters.

While recently examining some aquatic forms sent me by my friend, Mr. E. P. Van Duzee, I discovered a new species of *Micronecta* from the Philippines; I add also two new species from Ceylon and two from Australia, discovered amongst purchased material.

The males of *Micronecta* terminate* the pala (anterior tarsus) by a strong curved claw; this claw is articulated with the tarsus and fits into a cavity therein, when folded back (like a clasp-knife). There are fifteen species of extra-palæarctic distribution, of which twelve or thirteen are known to me actually:

A. *Oriental.*

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| 1. <i>vanduzeei</i> sp. n. | Philippines. |
| 2. <i>albifrons</i> Motschulsky, 1863 (<i>Corixa</i>) | Ceylon. |
| 3. <i>grisea</i> Fieber, 1844 (<i>Sigara</i>) | India. |
| 4. <i>thelxinæ</i> sp. n. | Ceylon. |
| 5. <i>notata</i> Kirkaldy, 1897 (<i>Sigara</i>) | India. |
| (= <i>lineata</i> Fieber, 1844.) | |
| 6. <i>memonides</i> sp. n. | Ceylon. |
| 7. <i>ovivora</i> Westwood, 1871 (<i>Corixa</i>) | India and Ceylon. |
| 8. <i>punctata</i> Fieber, 1844 (<i>Sigara</i>) | India. |
| 9. <i>siva</i> Kirkaldy, 1897 (<i>Sigara</i>) | India. |
| (= <i>striata</i> Fieber, 1844.) | |

B. *Ethiopian and Mascarene.*

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| 10. <i>felix</i> Butler, 1876 (<i>Sigara</i>) | I. Rodriguez. |
| 11. <i>sulcata</i> Signoret, 1861 (<i>Sigara</i>) | Madagascar. |
| 12. <i>scutellaris</i> Stal, 1858 (<i>Sigara</i>) | S. Africa. |
| 13. <i>pilosella</i> Horvath † | Madagascar and Réunion. |

C. *Australian.*

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| 14. <i>annæ</i> sp. n. | Australia. |
| 15. <i>erato</i> sp. n. | Australia. |

This brings the total of species up to 39, of which perhaps 36 are valid.

* First pointed out by Handlirsch (1901). Fieber seems to have been unaware of this fact, and his diagnosis in 1844 is altogether erroneous.

† I have not seen the description, though I believe it is published. It is probable that *M. albifrons*, *ovivora* and *siva* may be the same species. *M. felix* is also probably synonymous with one of the other Ethiopian forms. The others, however, all seem to be valid.

M. vauduzeei sp. n.—Head and underside stramineous; pronotum and scutellum fuscous. Tegmina pale yellowish brown, with, usually, three thin, longitudinal lines of darker color (the markings, however, are not always very clear); legs pale yellow. Vertex longer than pronotum, the latter being short, elongate elliptical, lateral margins much shorter than half the width of the posterior margin of an eye. Head with the eyes a little wider than pronotum. Pronotum, scutellum, and tegmina smooth, polished, impunctate; subcostal furrow reaching at least as far as the apex of the clavus. *Mesoxypus roundedly obtuse-angled*. Intermediate femur equal in length to tibia, tarsus and claw together; tibia a trifle shorter than the claw, which is one-half longer than the tarsus. Length, 3 mm.

Philippines, Negros Isd. (C. S. Banks in collns. Van Duzee and Kirkaldy).

M. thelxine sp. n.—Head and underside pallid. Pronotum and scutellum dark brownish grey, tegmina pale flavogriseous, the pronotum very narrowly pallidly margined, tegmina ornamented with pale brownish somewhat as in *M. siva*, but more faintly. Head a little longer than the pronotum, the latter being elongate elliptical, lateral margins very short (meeting actually laterally in an acute angle). *Mesoxypus* rounded posteriorly. Intermediate femur about one-seventh longer than the tibia, tarsus and claw together; tibia one-half longer than tarsus, which is slightly more than half the length of a claw. Length, 2 mm.

Ceylon (my collection).

This is somewhat allied to *M. ovivora*, but is smaller and the proportion of the legs different.

M. memonides sp. n.—Head pallid. Pronotum and tegmina dark smoky brown with purplish reflections, lateral margins more or less pallid. Underside black, except trochanters, femora, tibiæ, tarsi and claws, and posterior margin of abdomen, all of which are pallid. Tegmina smooth and polished. Head a little longer than pronotum, rounded in front. Pronotum elongate elliptical, lateral margins about as long as half the width of the posterior margin of an eye. *Mesoxypus* rounded. Intermediate tarsus nearly twice as long as the tibia, which is sub-equal to a claw. Subcostal furrow much as in *M. vauduzeei*. Length a little less than 2 mm.

Ceylon (my collection).

A very distinct little species.

M. annæ sp. n.—Head pallid. Pronotum dark fuscous brown, with darker transverse median line. Tegmina fuscous brown (the margins of the areas narrowly darker), somewhat superficially punctured. Head a little longer than pronotum, rounded in front. Pronotum elongate elliptical, lateral margins very short, much less than half the width of the

posterior margin of an eye. *Mesoxypus acutely triangular*. Terminal segment of antenna elongate, somewhat thickened. Intermediate femur equal in length to tibia, tarsus and claw together; tarsus one-half longer than a claw, which is equal in length to the tibia. Subcostal furrow much as in *M. vanduzeei*. Length $3\frac{1}{4}$ mm.

Australia, Victoria (my collection).

M. erato sp. n.—Head and underside pale stramineous. Pronotum pale sordid yellow, with a broad blackish brown median transverse stripe which does not reach the lateral margins. Tegmina sordid stramineous; clavus with two narrow dark brown lines running parallel to interior and corial margins, uniting at the apex of clavus. Corium with two elongate suboval areas narrowly dark-brown-bordered, and the exterior lateral margins also brownish black. Pronotum, scutellum and tegmina somewhat superficially punctured. Head rounded in front, longer than the pronotum; lateral margins of pronotum obsolescent; membrane apically angulate. Length about 3 mm.

Australia, Victoria (my collection).

[NOTE.—My friend, Mr. G. W. Kirkaldy, has sent this paper to the publisher through my hands, thinking I might be able to add a more definite locality to his new species *Micronecta vanduzeei*, and I have ventured to draw attention here to two additional species of *Micronecta* just published by Dr. Horvath in a paper entitled "Hydrocorisæ tres novæ" in volume two of the *Annales Musei Nationalis Hungarici*, pages 594-595, 1904. This paper could hardly have reached Professor Kirkaldy in Honolulu at the time he mailed his paper to me. The species are:

P. 594.—*Micronecta haliploides* Horvath from Ceylon. Near *M. punctata*, but with a shorter pronotum.

P. 595.—*Micronecta carbonaria* Horvath from New Guinea. Differs from all previously known specimens in being black.

The other aquatic bug described in this paper is *Plca japonica* Horvath from Japan.—E. P. VAN DUZEE, July 17th, 1905.]

MR. O. W. BARRETT recently resigned his position as entomologist and botanist of the Porto Rico Experiment Station at Mayaguez, Porto Rico, to accept the position of Plant Introducer in the office of Seed and Plant Introduction and Distribution, Foreign Explorations, United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C. This title has been created for this position. Besides attending to the distribution of tropical and subtropical plants stock, he will have charge of the inspection and quarantine of both incoming and outgoing plant shipments of this section of the Bureau of Plant Industry.